

Urban Sanitary Authority, Pontypool, Mon.

S. B. MASON,  
MEDICAL OFFICER.

Denham House,  
Pontypool.

Feb 23 1898

Sir  
I beg to hand you a  
copy of my Annual Report  
for the year ending Dec 31. 1897.

Yours Truly  
S. B. Mason  
UNCEST

The Librarian &c





# Medical Officer's Annual Report, 1897.

Denham House, Pontypool,  
February 10th, 1898.

Mr Chairman and Gentlemen,—I beg to hand you my 20th annual report relative to the sanitary condition of your district for the year ending December 31st, 1897.

I regret that your efforts to increase your area have not been more successful. The limited space over which your authority extends decidedly curtails your endeavours to improve the district as much as might be done. Some further attempt should be made in order to enlarge the district under your control, especially if any system of sewage disposal is about to be seriously considered. Consequently the same description of your area as I have hitherto given will suffice.

**Description of Area.**—It lies upon the carboniferous system, or more particularly the millstone grit, or farwell rock, or the lower portion of the true coal measures, and forms the eastern outcrop of the South Wales coalfield. The strata dip or slope about three inches per yard in a south-westerly direction.

**Configuration.**—The surface of the district is extremely irregular and hilly, and lies to the north of the Trostan Brook and to the west of the Avon Llywd river. It comprises the angular portion of land formed by the above-named streams. The ground rises or slopes up in a northerly, north-westerly, and westerly direction from the before-mentioned streams, and lies at an elevation of from 400 feet to 700 feet above the mean sea level, and comprises an area of 234 acres.

The weather during the year has been uniformly bad, save June and July. These months were intensely hot, some parts of July unbearably so. January was seasonable with frost, the amount of sickness being small. February was hot and damp, and brought about an invasion of influenza and measles epidemic. During March the same atmospheric conditions continued, with abundance of moisture in the air. After that the weather was cold, sometimes very cold, up to May 15. It then suddenly turned extremely hot, and so followed June and July. The remaining months of the year were wet, cheerless, and miserable, except October, which was a fairly bright month. But for the configuration of your district which allows rain to rapidly flow away, I am under the impression that your sickness and mortality would be considerably higher than at present, and even as it is I am sure that a large percentage of sickness and suffering is brought about by the moisture constantly present in this valley. These atmospheric conditions are to a great extent neutralised by the care and comfortable surroundings such as those in good circumstances can afford, but it is otherwise with the poor and labouring classes. These are the martyrs to the damp and inclement atmospheric conditions, as is evidenced by the number of children of those in the lower walks of life who suffer and succumb to the acute chest affections, as compared with those of the comfortable tradesman class.

During the year there were 91 deaths from all causes and at all ages—44 males and 47 females—the death rate per 1,000 being 14.6 of the estimated population. This is a higher death rate than that of the preceding year, which was unusually low, but it compares well with other years, inasmuch as the rate for 1892 was 22.8; '93, 17.6; '94, 16.4; '95, 14.1; '96, 11.8; and 1897, 14.6; the mean average death rate for the past 5 years would be 14.9. I consider this a proof that your district cannot be so very insalubrious, notwithstanding all arguments to the contrary. The above death rate is calculated on the number of persons dying, and at the same time being actual residents of your district, but it is only fair to say that there is also among the number a few who have died here belonging to other districts, but as no notice of this circumstance is given me officially, I prefer to take no cognisance of it further than mentioning it. The death rate can be corrected on more certain lines by taking into consideration those persons who died in the Union Infirmary, but had they not been so removed would in all probability have died in this district. I have been able to ascertain that 6 of your inhabitants succumbed in that Institution. This number will bring the death rate up to 15.6 per 1,000 per annum. During the same period there have been 191 births, 95 males and 96 females, giving a birthrate of 30.8 per 1,000 per annum of the estimated population, and, as in the case of the death rate, there has been a slight advance on the preceding year, when it was 26.3. It has been asserted by statisticians that a high death rate and a high birth rate go together, and conversely a low death rate and low birth rate are associated. This statement has been denied by many, but in your district the assertion has invariably held good. Notwithstanding the fact that the number of births has increased by 29 on the year immediately preceding, I regret to say that the death rate per 1,000 born, and under 1 year of age has materially increased. For the year I am reviewing it has made a sudden jump to 163.2 per 1,000 born. This is not a very alarming state of things, but it carries us back five or six years, and can be explained by reference to table A. It will be seen that 31 children died during the first year of life, and altogether 46 before reaching five years of age. This number, you will observe, is half the deaths occurring in your district, and there has been nothing specific to cause it, except an epidemic of measles, and, as I shall explain further on, the low state of vitality of your inhabitants, brought about in a great measure by reduced wages and bad atmospheric conditions.

The death rate from all zymotic diseases is 2.0 per 1,000 per annum. This is rather less than that of the preceding year. I have included in this rate six deaths from measles, and three from diarrhoea, which are not scheduled in the Notification Act of 1889.

Birth rate per 1000 annuum.	Death rate per 1000 annuum.	Deaths 1 year per 1000 born.	Zymotic diseases per 1000 annuum.	Cor- rected death rate per 1000 annuum.
1892 ... 40.3	22.8	176.4	5.4	24.3
1893 ... 35.7	17.6	150.2	2.5	19.7
1894 ... 34.8	16.4	142.8	2.1	18.4
1895 ... 34.6	14.1	142.1	—	19.7
1896 ... 26.3	11.8	128.3	2.4	13.1
1897 ... 30.8	14.6	163.2	2.0	15.6

It is evident by the above table that the mean death rate for the past five years, from 1893 to 1897, for the Urban District of Pontypool is 14.9 per 1,000 per annum. I do not see much that is unsatisfactory there. There has been a most surprising diminution of the death rate of the country at large, the mean death rate in England and Wales was for the five years 1870 to 1874, 22.0; for the 26 years, 1870 to 1895, 18.7, equivalent to a reduction of 8.6 per cent; for the year 1895-1897 is equal to a reduction of 15.4 per cent.,

and the consequent saving of life in England and Wales for 1895 alone an equivalent for 85,313 persons. Table A, supplied by the Local Government Board, epitomises the mortality in all causes as under:—

Deaths	under 1 year of age...	31	46	under 5 years of age...
" 1 and under 5 "	" " " "	15	15	" " " "
" 5 " " "	" " " "	1	1	" " " "
" 15 " " "	" " " "	4	4	" " " "
" 25 " " "	" " " "	24	24	" " " "
" 65 and upwards...	" " " "	16	16	" " " "

Total at all ages... 91

CAUSES OF MORTALITY TABLE A.	
	Under 5 years of age.
Diphtheria	0
Membranous croup	2
Measles	6
Whooping cough	1
Diarrhoea	3
Phthisis	1
Bronchitis, pneumonia, and pleurisy	15
Heart disease	0
Injuries	1
All other diseases	17
	46

It will thus be seen that the infant mortality has risen considerably. 163.2 per 1,000 born is a much higher rate than has occurred since 1892, when it reached 176.4 per 1,000 born. In that year I find measles carried off 11, scarlatina 6, whooping cough 4, diarrhoea 8, chest affections 16, and other diseases 25, making a total of 70 under 5 years of age and 42 under 1 year out of that number. The causes of death among children during that period are tolerably clear. In table A, for the year under review, 46 children died under 5 years of age. The causes to make up the number can be seen there, and, as I have already mentioned, make up half the death rate.

The causes leading to infant mortality are split up into several headings.

- Prematurity of birth and congenital defects
- Hereditary tendencies
- Inexperience and neglect of mothers
- Improper feeding
- Industrial conditions
- Insurance

With respect to (a), I find 3 deaths were due to this cause, but often poor health in the mother may produce delicacy in the offspring, and frequently women who live miserably and unhappy lives, underfed and badly treated, and whose progeny are consequently breast-fed, confer on them nervous and dyspeptic troubles, that result in malnutrition and an easy death, therefore I am inclined to believe that many deaths of young children are due to this cause, coupled with (b), but are not actually certified as such.

(c & d) Inexperience and neglect of mothers and improper feeding may be classed together. As far as my experience goes, in your district I do not think mothers can be charged with inexperience, as a rule, and the majority of them are not negligent, as I believe they take as much care of their children as circumstances will permit, and by this I mean, when it is considered that the majority of houses let to the working classes are much worse than many gentlemen would stable their horses in, and also that the rate of wages is so very low, the great wonder is that the rate of infant mortality is not considerably higher, especially (as I have remarked before) the amount of moisture in the atmosphere acts so deleteriously on young children, who, when ill, have so little chance of combating disease, because during health their system is not kept up to a proper standard. The amount of broncho-pneumonia and other chest affections among children in the district is amazing and only known to the medical men, and these unfortunate children are often nursed in a room opening directly on to the road with a badly fitting door, and without a possible chance of keeping anything like a constant atmosphere. Also little ones are forced to school by the ruthless pressure of the School Board in all weathers. I have personally watched children of tender years almost shoeless and poorly clad going to school in the rain, and I know they have to sit in their damp garments the whole time, and the result is often "the survival of the fittest." This School Board pressure is one of the commonest causes of children's ailments among the poor, which are rarely traceable in children of tradesmen or the better classes, because they either keep their little ones at home during inclement weather, or send them better provided to stand it. Improper feeding the medical man has often to inquire into and set the mother right on, and as a rule they gladly act upon the advice given; but, unfortunately, bottle-fed children are frequently fed upon cheap tinned milk, from which nearly all the fat or cream has been abstracted, and although the fond mother fancies she is giving her child plenty, she is actually starving it. There are some tinned milks suitable for feeding infants, and mothers should be careful to get that kind containing at least 11 per cent. of butter fat.

(e. and f.) These conditions scarcely affect your district, as very few mothers are employed in works and so leave their children to the mercy of others, and it has rarely happened in my experience that a child is allowed to die for the sake of the insurance money.

Table B, another requirement of the Local Government Board, has reference to births, and new cases of infectious sickness coming to the knowledge of the medical officer of health, and census.

**Pontypool Urban District Council.**—Population at all ages, Census, 1891, 5,842; population estimated to middle of 1897, 6,202; Registered births 1897—191.

INFECTIOUS SICKNESS.	
	Under 5 years of age.
Scarlatina	9
Membranous Croup	2
Puerperal Fever	0
Erysipelas	0
	11

Number of such cases removed to isolation hospital... 0

Notification Act adopted Jan. 1, 1891, has been of signal service during the past year. 30 cases (as shown above) have been notified during the year 1897, against 45 in the previous year, and nothing approaching the semblance of an epidemic from any notifiable disease occurred. I have advised you on previous occasions to include measles in the list of scheduled diseases, and I am still of opinion that it would be a wise course to pursue. Since 1890 scarlatina has been steadily declining, and I am given to understand that all over the country measles has been steadily increasing, and although

in consequence of the greater infectiousness of measles, I hardly think the spread of the disease could be controlled like scarlatina, because it is so difficult to make people understand that it is a really very dangerous infectious disease, yet I am certain that by receiving early and regular information of an outbreak, an effort could be made to limit the spread, and probably save many lives by putting off the attack until children are over 5 years of age. Then they have a better chance of resisting the malady and its complications than they would have at an earlier age. Children over 5 years of age do not die largely of measles, whilst the second year is most fatal. Blackpool has a local Act under which measles is notifiable, half-a-crown being paid to the medical man for the certificate, but only one such fee need be given unless 30 days have passed before a second certificate is sent in. I consider that a certificate showing a certain house to be a centre of infection might suffice for all practical purposes, and the certificate paid for in the usual way, but not for the number of cases. Dr Theodore Thompson, in his exhaustive report on measles in England and Wales, says: "It is clear, however, that a necessary preliminary to taking precautions against the spread of this disease, is the possession of knowledge as to its occurrence, and my investigation of methods that may be employed to this end has led me to the conclusion that compulsory notification of measles, properly utilized, is likely to prove of no little value." This quotation is one of the most important parts of the report, and the words "properly utilized" is the quintessence of the sentence. It means to the medical officer of health a great deal more than the mere receipt of the certificate. The closure of public schools after an epidemic has fairly started is a poor remedy, and is like locking the stable door after the horse is stolen. The great effort that should be made would be to prevent an epidemic starting, and only by early notification and the medical officer of health being allowed to carry out sanitary measures, which should be backed up by the Council in every respect—even so far as bringing into action Section 126, Public Health Act, 1875, by prosecuting persons for exposing those in their charge whilst suffering from a dangerous infectious disease, for if certificates of notification are to be paid for, the information must be made use of vigorously.

**Scarlatina.**—During the whole year, this disease has been cropping up, not in any particular part of the district, but irregularly. Twenty-two cases were notified—precisely the same number as in 1896. The type of disease was very mild, and there were no fatalities.

**Diphtheria.**—There has been no notification of this disease, although one death was certified as due to it. This was the result of an imported infection from the previous year.

**Puerperal Fever.**—One case of this disease was notified. It recovered after a tedious illness. As far as I could ascertain, the cause was from the absorption of septic matter through some abrasions consequent upon a very difficult delivery.

**Erysipelas.**—Four mild cases of erysipelas were reported in adults. Probably 3 were due to chill, and the fourth supervened on an injury to the head. All recovered.

**Measles.**—In January, a young man from Gloucester developed this disease within a week of his arrival in your district. Early in February, several children were ill with the same thing in different parts of the district, and by the end of the month it became epidemic. The disease assumed a mild type. I have no means of knowing how many were ill, but I know that early in March it was so very prevalent that I deemed it necessary to advise the closure of the Public Elementary Schools. This was done on the 11th for 21 days. I asked the Sunday School Authorities to close the Sunday Schools for a like period, and I have great pleasure in saying they readily complied. These measures had a salutary effect, and materially assisted in staying the spread of the infection. In April the epidemic gradually subsided. There were 6 deaths, 3 due to broncho-pneumonia, 2 to convulsions, and 1 to meningitis; all being under 18 months old.

**Whooping Cough.**—This disease has been scattered about your district through most of the year, and there has been one fatal case. At no time has there been anything approaching an epidemic. The cases I have seen have been of a mild type, and the great difficulty has been to combat complications such as broncho-pneumonia and bronchitis.

**Diarrhoea and Dysentery.**—The former disease is the one that has troubled your inhabitants most, and has proved fatal to 3 infants. In 2 cases the probable cause was intestinal catarrh, and the 3rd died during the first month of life from loss of mother's milk. Diarrhoea has been more than usually prevalent among children during the past 12 months. Possibly the damp may have been a factor in the causation. But the fact must not be lost sight of that children about this country are fed on the most unsuitable food, and not only diarrhoea results, but worms and a whole host of internal troubles. Children under 1 year of age are often brought to me suffering from worms, and I have no doubt that this is the experience of most medical men practising in this district. It is quite the usual thing to find children under one year old being fed "on anything that is going," when at the same time they should be taking little else than milk.

**Phthisis.**—This disease of the lungs proved fatal in 9 cases—rather more than is usual. The excess I believe was brought about by three persons dying in one family in the early part of the year. This is one of the hereditary diseases that can be modified by diet and sanitary precautions—dry healthy dwellings can assist the cure, or retard the development of tubercle. Tuberculous diseases of the lungs, and in any other part of the body may be propagated by drinking milk from diseased cows, especially in persons with a predisposition to infection. The expectoration of consumptive persons is, however, the greatest vehicle of infection, wherever it is allowed to dry. As a rule it swarms with bacteria, and though these may perish their spores are disseminated in the dust and inhaled by other persons, therefore all consumptives should use a spittoon containing a germicide.

**Bronchitis, Pneumonia, and Pleurisy.**—As I have pointed out elsewhere, these are the diseases that run up the infantile death rate—20 persons were victims to one or other of these maladies. Every year I find these diseases preponderate over all other causes of death.

**Influenza** has been a regular visitor all through the past 12 months, in fact, the district has never been free from it. In April and May it was quite epidemic. No death has been certified as being directly due to it, still I believe it to have been the primary cause of many.

I do not consider my annual report would be complete without reference to the valuable work done by the district nurse. The Queen Victoria's Jubilee Institute of Nurses is well represented in

your area: the directions of the medical attendant are more correctly carried out now than was the case before a trained nurse was available for the poor. This undoubtedly contributes to the betterment of treatment, and often augments recovery. During the year under review the district nurse has paid 1,597 visits in your district alone. These services are valuable to the medical officer of health, inasmuch as she frequently points out insanitary conditions, and at the same time frequently instructs the poor in the need of being clean, and, consequently, more healthy.

**The Water Supply** has been good in quantity, and I have no reason to suspect its quality, and no complaints have reached me with regard to the service.

**The Meat** supplied to the district has been uniformly good and prices low. This is a great boon to the labouring classes. I have not been called upon to examine any sample of unsound meat during the year.

In reviewing the health of the district for the year just closed, I can see no indication of any increase of sickness, except the epidemic of measles; in fact, as far as my personal experience goes, I am under the impression that illness has been less, generally, than in the preceding year. There has been no single instance of typhoid nor diphtheria. The number of fresh cases of pauper sickness has certainly increased from 291 cases in 1896 to 375 in 1897, but this was only to be expected from my deductions in the earlier part of the report. There are several works now idle that formerly gave occupation to a large body of men, who have now to seek employment of a different nature, and consequently, when ill, have no works doctor, and it frequently happens no club, consequently they come on the parish for sustenance and medical relief. I regret to say there is a growing tendency on the part of the labouring classes to neglect providing themselves with a club, and in times of sickness and accidents have to be supported out of the rates. This may be in a measure due to the low wage rate, but I am disposed to think it is in a great measure improvidence.

**Recommendations.**—I consider that three ashbins require adding to your district, one to be placed in Coedcae, and two in Malthouse Lane. I shall be glad if the Council will direct that the existing sewers that have their exit in the Afon Llywd be carried to the centre of the stream, instead of emptying on or near the bank as at present; also to have the various impedimenta, such as old wood, boughs of trees, boulders, tins, &c., which at present obstruct the flow of the stream removed from the watercourse.

**Sewage Disposal.**—In my annual report for the year immediately preceding this, I recommended you to join the tunnel scheme as brought forward by Mr Tanner, the county surveyor, since then such a very marvellous development has been attained in the treatment of sewage, that I now strongly advise you to wait a little longer before seriously discussing the subject. Nature's method of purification is being brought to great perfection by Mr W. J. Dibden, and will shortly be announced as the most scientific and economic of anything hitherto promulgated. The one great object aimed at by the various systems of sewage disposal before the public has been to preserve by chemicals and antiseptics, at great cost, the solids of the sewage, with the idea of making a profit out of its manual value. This has been proved in nearly every instance a great delusion, and it has now been successfully demonstrated that "The antiseptics for sewage treatment have failed, or are rapidly fading out of sight, and it has come to be recognised that the microbial action is the chief one now worth further study." It appears that if the sewage is conducted to a properly constructed filter tank, and if it is first passed over a screen, so as to remove paper, rags, and other foreign matter, in its passage through the filtering material it is attacked by a whole colony of bacteria, and practically eaten up by them. "If any porous material, such as coke breeze, burnt clay, &c., be placed in a vessel or tank, and sewage water admitted thereto, a large proportion of filth (which is only another name for the complex organic matter containing gelatine, chondrine, albumen, starch, &c. to be found therein) will adhere to the rough sides of the coke or other material, and the organisms, whether known as bacilli micrococci, &c., will commence their work by feeding and multiplying, so that in a short time the whole surface of each particle of coke, or other material which may be employed, will be covered by them. Let the water be drawn off gently after sufficient time has been allowed for the adherence of the fine particles of matter to the coke. Air will be admitted as the water is lowered, and a fresh impetus will be given to the little workers, who will soon be ready for another supply of food to be given them in the form of a second quantity of foul water. It will be at once seen that if the supply of air and food is maintained regularly, and at proper intervals, these processes may continue indefinitely, and that we can bring about the destruction of the objectionable matter completely and economically for as long a time as may be desired. Of course the question will at once arise as to what becomes of the dead bodies of the bacteria which succumb in the struggle for existence. In reply, I would point out that a dead bacteria will be only so much food for his friend, who does not show much feeling in the matter, and evidently considers that all is fish that comes to his net. Such then is nature's method of purification," and I venture to predict that before very long sewage farms, chemical processes, and filtration by the proprietary article will be extinct.

Your Inspector of Nuisances reports as follows: The following notices have been served for the removal or abatement of nuisances—Defective and foul closets, 32; defective drainage, 25; overcrowding, 3; insufficient closet accommodation, 5; defective dwellings, 14; back areas not paved, 3; smoke nuisances, 1; total, 83.

General nuisances arising from defective downpipes, depositing ashes, house refuse, or allowing any offensive or noxious matter to run, lodge, or accumulate in the gutter or the surface of the streets, and for the removal of manure, 290.

Disinfection has been carried out in all houses notified as being centres of infection. The Public Elementary Schools were disinfected during the period of closure in consequence of the epidemic of measles.

Regular inspections have been made, and suggestions carried out in the common lodging-houses, dairies and cowsheds, milkshops, slaughter-houses, and bakehouses.

Two new buildings have been erected during the year, and several old ones reconstructed.

I am, Mr Chairman and Gentlemen,

Yours obediently,

S. BUTLER MASON, M.R.C.P., &c.,

Medical Officer of Health.



